

2.0 SCOPE OF SERVICES

2.1 Background

The County's land mass covers over 2,400 square miles. Less than half of that area is developed. The developed area supports 2.6 million residents and over 13 million annual visitors. MDPD serves as the Office of the County Sheriff, and provides specialized services to the entire county, including municipalities that have their own police department. MDPD is solely responsible for law enforcement services to about half of the County's residents with approximately 2,000 sworn personnel. Because random and intentional gunfire are significant problems, MDPD has taken an aggressive stance to curtail gun violence.

MDPD desires to develop and implement a comprehensive, analysis-and forensic-driven approach to reduce gun violence within the region by incorporating gunshot detection technology as a component of a larger initiative. This initiative will be innovative because it:

- Has not been widely implemented in the region.
- Takes a *regional* approach in lieu of *jurisdictional*.
- Takes an interdisciplinary approach.
- Integrates disparate resources and related resources.
- Technology-driven (not manpower intensive).
- Directly feeds information to MDPD RTCC
- Directly feeds information to MDPD Communications Bureau for dispatch

2.2 Current Operating Environment

There are multiple areas that are plagued by gunshot incidents. Such areas are several square miles each. The frequency of gunshots in these areas has compelled MDPD to modernize its methods of response. Such modernization will increase the accuracy of locating gunshot incidents, will expedite the response times thereto, and will improve the likelihood of obtaining invaluable forensic evidence.

To help address such gunshot incidents, numerous initiatives have been in place for many years. These initiatives, implemented at varying but significant cost, included:

- Area saturation
- Line patrol
- Anonymous "tip lines"
- Non-secular public appeals
- Secular public appeals
- Community involvement
- Community-oriented policing

The efficacy of these initiatives is varied.

For gunshot incidents, multiple problems hamper MDPD response:

- No report from the public
 - Did not hear the incident
 - Did not recognize the incident as a gunshot
 - Did not care
- Delayed report from the public

- Fear of reporting/becoming involved
- Did not feel compelled to report
- Did not know how to report
- Delayed reporting often eliminates evidence
 - No timely apprehension of subject
 - Forensic evidence reduced or eliminated
- Inaccurate report from the public
 - Incorrect time or date
 - Incorrect location
 - Incorrect quantity of shots fired
 - Incorrect type of weapon identified
 - Incorrect reporting of engine backfire or firework as gunshot

Regardless of the reason, delayed or inaccurate information causes a delayed, incorrect, or insufficient response from MDPD. Such delays lead to the loss of forensic evidence:

- cartridge cases
- projectiles
- bodily fluids/DNA
- footprints
- theft of weapon left on scene
- other evidence tampering by indigenous personnel
- video

2.3 Desired Solution Functionality

It is critical for MDPD to increase gunshot detection location accuracy, expedite response times, apprehend fleeing subjects, and improve the likelihood of obtaining forensic evidence.

To help fulfill its mission, MDPD requires a turnkey Acoustic Gunshot Detection Solution (AGDS) inclusive of hardware/devices, hosting services, software, implementation, training, custom reports, professional services, and ongoing maintenance and technical support to provide coverage for defined Gunshot Detection Zones (GDZ) as listed below:

- GDZ #1 (4 square miles)
- GDZ #2 (2 square miles)
- GDZ #3 (2 square miles)

To avoid vandalism or any other possibility of the deployed hardware being compromised, geographic boundary information will be provided to the selected Proposer.

The acoustic gunshot detection solution should provide the following functionality:

1. Provide vetted confirmation within 60 seconds of gunshot detection.
2. Provide exact positional data in one if the two following projections/coordinate systems:
 - NAD_1983_StatePlane_Florida_East_FIPS_0901_Feet coordinate system (x, y, and z)
WKID: 2236 Authority: EPSG
Projection: Transverse_Mercator
 - WGS_1984_Web_Mercator_Auxiliary_Sphere
WKID: 3857 Authority: EPSG
Projection: Mercator_Auxiliary_Sphere

3. Provide addresses that adhere to the United States Postal Service standards as outlined in Attachment 3
4. Provide mapping capability, including overlay of incident location.
5. Provide a date and time-stamped digital recording of the incident for immediate playback.
6. Provide the ability to record the event and save all corresponding information/data
7. Provide the ability for acoustic sensors to withstand south Florida windstorm and other harsh climate conditions.
8. Provide the ability to timestamp individual gunshots to at least 1/10 of a second utilizing a Global Positioning System clock.
9. Provide the ability to network acoustic sensors together in a Wide Area Network (WAN) utilizing any/all of the following communication methods: wireless 900 MHz, hardwire, existing WAN access point, public wireless/cellular carriers (encrypted in compliance with the Federal Bureau of Investigation's Criminal Justice Information System (CJIS) Security Policy).
10. Provide the option to interface with networked video surveillance cameras remotely controlled by the MDPD .
11. Provide the ability to capture forensic information such as: exact location of each shot, exact time of each shot, and matching forensic-grade digital recordings.
12. Provide the ability to integrate with other gunshot detection solutions.
13. Provide a web-based user interface that is accessible via various web browsers for an unlimited number of MDPD users with a minimum uptime of 99.99%
14. Provide various role-based access levels (user, administrator, etc.)
15. Provide the ability to monitor the status of sensors to verify if they are online and working properly or faulty and require maintenance.
16. Provide the ability to track reported gunshots for further investigation.

2.4 System Security

The proposed AGDS must meet the following minimum system security requirements:

1. Server and related systems must be secured per Center for Internet Security (CIS) Benchmarks (Level I) as further outlined at the following link: <http://benchmarks.cisecurity.org/downloads/browse/index.cfm?category=benchmarks>
2. All vulnerabilities identified by the County's current vulnerability management platform (Qualys) using the Common Vulnerability and Exposure (CVE) system ranked as Medium or above remediated within 30 days.
3. Web applications must be free from OWASP top 20 application vulnerabilities, verified by ongoing vulnerability scans using the County's current web application vulnerability management platform (IBM Rational App Scan).
4. Must participate in the County's patch management program – any vulnerabilities discovered during security assessments, continuous monitoring or incident response activities must be patched within 30 days.
5. Event auditing and accountability must be implemented in accordance with CJIS Security Policy, section 5.4
6. Access control must be implemented in accordance with CJIS Security Policy, section 5.5
7. User identification and authentication must be implemented in accordance with CJIS Security Policy, section 5.6
8. System and Communications Protection and Information Integrity must comply with CJIS Security Policy, section 5.10

2.5 AGDS Interfaces

The selected Proposer must provide an Application Programming Interface (API) that provides a means to extract the data collected by the AGDS. The API should meet the following desired specifications:

1. The API should be exposed via a RESTful web service
2. The content type which is returned by the web service should default to XML, but JSON should be returned if the client calls the web service with an HTTP header value of Accept: application/json; charset=utf-8
3. The content type which is returned by the web service should be gzip compressed if the client calls the web service with an HTTP header value of Accept-Encoding: gzip
4. The web service must use SSL via HTTPS
5. The selected Proposer may secure the web service via a means of authentication (Basic, Digest, etc.)
6. The selected Proposer must provide MDPD with the query criteria which must be passed when calling the web service

2.6 Implementation/Configuration/Installation Services

The selected Proposer must provide a “turn-key” system, whereby all permitting, site surveys, hardware, software, communication, function, vetting, and data deliverables are the responsibility of the selected Proposer. The selected Proposer shall be responsible for providing on-site installation, integration, software implementation, and configuration services for all components of the proposed AGDS. This should include planning and operational process redesign. The selected Proposer shall be responsible for testing the proposed AGDS and insuring proper functionality prior to launching in the production environment. The selected Proposer must perform all implementation/installation services in accordance with applicable laws, ordinances, rules, and regulations. With prior coordination with MDPD staff, there is no restriction on the time of day during which implementation/installation services can be completed. The selected Proposer shall be responsible for all aspects of installation of the hardware/devices related to the proposed AGDS, including the development of APIs. The installation shall occur on public or government property, and all permits, licenses, coordination with utilities and any other aspects related to the installation shall be performed by the selected Proposer.

To ensure accountability and decrease the quantity of “outside” personnel who are aware of the location of deployed hardware, MDPD desires that the Proposer must be the only entity involved in the installation and maintenance. If this is not possible, the selected Proposer must detail their approach to mitigate this risk. Proposers should provide a detailed description of all implementation and installation services and project timelines in the Proposer Information Section.

2.7 Professional Services

The selected Proposer will be responsible for providing a detailed explanation with their proposal response that addresses their firm’s ability to provide the following Professional Services:

2.7.1 Professional Services Related to Project Management

The selected Proposer will be responsible for project organization and management, to include the various project stages and milestones, change of Scope management, implementation and training strategies. The selected Proposer will create a project plan, and actively manage the responsibilities of their internal management team, and work with MDPD staff as required to complete the project.

The selected Proposer will be responsible for creating a plan that allows their proposed AGDS to integrate with existing gunshot detection solutions currently implemented by other municipalities/jurisdictions in areas

that are contiguous to MDPD-patrolled territory. Proposers should provide a detailed project plan in the Proposer Information document.

2.7.2 Ongoing Professional Services

The selected Proposer will be responsible for providing data collected from the proposed Solution to assist MDPD with documenting incidents to assist with forensic investigation. The types of data that will be required in these investigations will include but is not limited to the exact location of each shot, exact time of each shot, and matching forensic-grade digital recordings. Assisting with recreating details from the recorded incidents may include participating in court proceedings.

Additionally, the selected Proposer will be responsible for providing Subject Matter Experts that are capable of providing Acoustic Vetting Services throughout the term of resultant contract. Such Acoustic Vetting Service shall include determining the nature of a sound is a gunshot and not vehicles, fireworks, or other similar sounds. The selected Proposer must provide, at no charge, forensic and other Subject Matter Expert witnesses to assist MDPD and the Miami-Dade County State Attorney's Office in the prosecution of cases. Proposers should provide a detailed explanation of ongoing Professional Services in the Proposer Information document.

2.8 Hosting, Maintenance, and Support Services

The selected Proposer shall be solely responsible for maintaining the full functionality of the proposed AGDS, including maintenance of and upgrades to hardware/devices and associated software. In the event of theft, vandalism, weather events, or other damage to proposer-owned and proposer-operated hardware, the proposer shall be responsible for replacing the item(s) with the same or better versions at no cost to MDPD or the County.

The proposed Solution must be of the most recent release and the selected Proposer shall provide all hosting, software maintenance, and technical support services for the proposed Solution throughout the term of the contract.

A. Hosting and Software Maintenance Services

Hosting and software maintenance services, at a minimum, shall include updates and upgrades to the proposed AGDS including any developed APIs, including corrections of any substantial defects, fixes of any minor bugs, and fixes due to any conflicts with mandatory operating system security patches as well as upgrades to new version releases. Selected Proposer shall be responsible for ensuring system availability and a minimum uptime of 99.99%.

B. Technical Support Services

The selected Proposer must have technical support services available, on a toll free basis, 24 hours a day, 7 days a week, during the entire contract period with a one hour (60 minutes) or less response time to problems, with a clearly defined priority escalation process. The selected Proposer shall also provide on-site technical support when required. This on-site support may be requested when it is determined the problem cannot be corrected by telephone support. Proposers shall include description in the proposal response outlining the support services offered and any limitations thereof.

The County's preferred escalation process is outlined below:

Severity	Definition	Response Time	Resolution Time	Status Frequency Update
1=Critical	A major component of the System is in a non-responsive state and severely affects Users' productivity or operations. A high impact problem which affects the Users.	One (1) Hour	Four (4) Hours	One (1) Hour
2=Urgent	Any component failure or loss of functionality not covered in Severity 1, which is hindering operations, such as, but not limited to: excessively slow response time; functionality degradation; error messages; backup problems; or issues affecting the use of a module or the data.	Two (2) Hours	Eight (8) Hours	Two (2) Hours
3=Important	Lesser issues, questions, or items that minimally impact the work flow or require a work around.	4 hours	Seventy two (72) Hours	Four (4) Hours
4=Minor	Issues, questions, or items that don't impact the work flow. Issues that can easily be scheduled such as an upgrade or patch.	24 hours	One (1) Month for an acceptable work around until final resolution	Weekly Status Call

2.9 **Reporting**

MDPD requires the following standard reporting capabilities:

- Daily report for the 24-hour period ending at midnight
 - Total gunshots for that day
 - Inception-to-date cumulative
 - Total gunshots in each Gunshot Detection Zone
 - Inception-to-date cumulative
- Monthly report ending at midnight on the last calendar day of each month
 - Total gunshots
 - Inception-to-date cumulative
 - Total gunshots in each Gunshot Detection Zone
 - Inception-to-date cumulative
- Yearly report
 - Total gunshots
 - Inception-to-date cumulative
 - Total gunshots in each Gunshot Detection Zone

- Inception-to-date cumulative
- A report that indicates the peak hours for gunshots in a given Gunshot Detection Zone.

In addition to standard reporting, MDPD desires ad hoc reporting features to generate reports. A report regarding the status/up time of sensors is also desired. Proposers shall provide reporting features in the Proposer Information Section.

2.10 Data Retention

The selected Proposer shall ensure retention of data in accordance with Florida Statutes and General Records Schedule GS2 as outlined in Attachment A. Additionally, on a basis determined by the County, the selected Proposer shall transmit all collected data to the County. Proposers shall describe data retention capability in the Proposer Information Section

2.11 Training

The selected Proposer shall provide training to designated persons within MDPD. Training is to include how to properly navigate all modules of the User Interface according to the individual's access level, provide applicable training documentation or manuals, and be based on training a minimum of five (5) MDPD participants.

Training shall be conducted on-site at a designated location provided by MDPD and be coordinated with approved dates/time by the authorized MDPD project manager. The selected Proposer shall supply an electronic copy of all training materials to MDPD. Additional training shall be made available via on-line videos or other resources on an ongoing basis throughout the term of the contract awarded as a result of this solicitation. Proposers should provide a detailed description of the training services to be provided in the Proposer Information Section.

2.12 Optional Functionality

In an effort to further document verified incidents, MDPD desires the ability to include CCTV functionality in hotspot areas as they are identified. This would require modifying the existing hardware/sensor location with a CCTV camera and require access to a power source and the ability to focus the camera on the location of the detected gunshot. MDPD desires that the proposed Solution have plug-and-play capabilities to integrate with video management systems. Based on the XYZ coordinates of the gunshots detected by the acoustic sensors, the associated camera system can be automatically activated to pan-tilt-zoom cameras to help capture any nearby activities. The County currently has an existing video management system (Genetec) that may be used for this purpose. If the proposed Solution can be upgraded to include a high-definition, all-weather, video and audio camera system, Proposers should provide information regarding such system in the Proposer Information Section.

Proposers are encouraged but not required, to offer "Optional Functionality." **If a Proposer offers "Optional Functionality", it must use the attached Form 1, Section D, "Optional Functional and Related Services."** The "Optional Functionality" are considered optional services not included in the Scope of Services or cost proposal. Optional Functionality is included for informational purposes only and will not be considered in the evaluation of Proposals. Optional Functionality may be contracted at the sole discretion of the County throughout the resultant contract term.